

WHAT IS CLAIMED IS:

1. An LED lamp comprising:

at least one LED chip; and

a wavelength converting portion including a phosphor for transforming the emission of the LED chip into light having a longer wavelength than that of the emission,

wherein the LED lamp further includes filtering means, which is designed such that the spectral transmittance thereof becomes lower in at least a portion of the wavelength range of 550 nm to 605 nm than in the remaining visible radiation range.

2. The LED lamp of claim 1, wherein the LED chip radiates the emission of which a peak wavelength is included in the range of 400 nm to 490 nm.

3. The LED lamp of claim 1, wherein the LED chip is mounted on a substrate.

4. The LED lamp of claim 3, wherein the LED chip is flip-chip bonded to the substrate.

5. The LED lamp of claim 1, wherein the wavelength converting portion is made of a resin.

6. The LED lamp of claim 5, wherein the wavelength converting portion has a cylindrical shape and covers the LED chip entirely.

7. The LED lamp of claim 5, wherein the wavelength converting portion is further covered with another resin.

8. The LED lamp of claim 1, wherein the filtering means is arranged so as to cover the wavelength converting portion.

9. The LED lamp of claim 1, wherein the filtering means is made of a resin.

10. The LED lamp of claim 1, wherein the wavelength converting portion and the filtering means are both made of the same resin and substantially no interface is present between the wavelength converting portion and the filtering means.

11. The LED lamp of claim 5, wherein the wavelength converting portion made of the resin includes an Nd compound, and functions as the filtering means as well.

12. The LED lamp of claim 11, wherein the wavelength converting portion has a cylindrical shape and covers the LED chip entirely.

13. The LED lamp of claim 11, further comprising a reflector that has an opening surrounding the wavelength converting portion.

14. The LED lamp of one of claims 1 to 13, wherein the filtering means is designed such that the spectral transmittance thereof becomes lower in the wavelength subrange of 575 nm to 590 nm than in the remaining visible radiation range.

15. The LED lamp of claim 14, wherein the spectral transmittance of the filtering means in the wavelength subrange of 575 nm to 590 nm is controlled to be 10% to 95% of the spectral transmittance thereof in the remaining visible radiation range.

16. The LED lamp of claim 1, wherein the spectral transmittance of the filtering means is controlled so as to increase the average color rendering index Ra of the LED lamp.

17. The LED lamp of claim 1, wherein the LED lamp has a card shape so as to be attachable to, or removable from, an illumination unit including a lighting circuit.